

December 22, 2016

Electronically filed via IBFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street S.W.
Washington, DC 20554

**Re: *Ex Parte* Letter
 Higher Ground LLC, Application for a Blanket License to Operate C-band Mobile
 Earth Terminals, File No. SES-LIC-20150616-00357**

Dear Ms. Dortch:

The Association of American Railroads (“AAR”)¹ submits this letter in support of the Fixed Wireless Communications Coalition (“FWCC”) Petition to Deny the above-referenced application seeking authority to operate up to 50,000 mobile earth terminals (“METs”) in the 5925 to 6425 MHz band (the “6 GHz Band”).² The applicant, Higher Ground LLC (“Higher Ground”), fails to demonstrate that its proposed ubiquitously deployed METs would adequately protect incumbent fixed service operators, many of which, including AAR member railroads, use the 6 GHz Band for critical and potentially life-saving communications. Accordingly, AAR requests that the International Bureau (“Bureau”) deny Higher Ground’s application.

American railroads are critical to this country’s success and productivity. America’s major freight railroads support approximately 1.5 million jobs, nearly \$274 billion in output, and \$88 billion in wages across the U.S. economy.³ Railroads rely on various communications technologies to ensure the safe passage of trains across the United States, including specifically private fixed microwave systems that operate in the 6 GHz Band, as well as other frequency bands.⁴ These microwave

¹ AAR is a voluntary non-profit membership organization whose freight railroad members operate 83 percent of the line-haul mileage, employ 95 percent of the workers, and account for 97 percent of the freight revenues of all railroads in the United States. AAR members also include Amtrak, the nation’s principal intercity passenger railroad, and Metra, the primary commuter railroad serving the Chicago metropolitan area. More information on AAR is available at its website: <https://www.aar.org/Pages/Home.aspx>.

² Fixed Wireless Communications Coalition, Petition to Deny, File No. SES-LIC-20150616-00357 (filed Sept. 11, 2015) (“FWCC Petition”).

³ See Association of American Railroads, THE ECONOMIC IMPACT OF AMERICA’S FREIGHT RAILROADS 1 (Aug. 2016), <http://bit.ly/2fVIQkX>.

⁴ *Study of Spectrum Use by Energy, Water and Railroad Service Providers*, Comments of the Association of American Railroads, NTIA Docket No. 010327080-1080-01, ¶ 6 (2001); see also Letter from Mitchell

systems carry information regarding train signals and remote switching of tracks and routing of trains that are necessary for the safe operation of trains on rights-of-way and through depots and freight yards. These systems also relay critical telemetry data from trackside defect detectors located throughout the rail network. For example, information about damaged rails, overheated wheel bearings, dragging equipment, and rock slides is automatically transmitted from these detectors via mobile radio links to crew members, who can then take the necessary actions to prevent derailments, and via fixed microwave links to dispatchers in distant locations. Microwave systems also are vital to coordination of operations among the different railroads. Such critical communications are typically designed for availabilities greater than 99.999%.

Higher Ground, however, does not adequately demonstrate that its proposed operations protect these important, existing communications. The METs are intended to be ubiquitously deployed consumer products attached to modern day smartphones. To address potential interference concerns, Higher Ground proposes to rely essentially on a self-administrated coordination scheme.⁵ As explained by FWCC, Higher Ground's scheme is deficient and is not adequate to protect incumbent users.⁶ Higher Ground would unilaterally make transmit decisions. There would be no review by third parties, no method for potential victims to preempt interference, and no recourse for victims if interference occurs. In the event of interference, the victims could not detect, identify or force the source of interference to discontinue because of the transient nature of the METs.⁷ Such a departure from the current, stable operating environment could jeopardize the mission critical communications by railroads in the 6 GHz Band.

Moreover, as a technical matter, Higher Ground's interference analysis is based on unrealistic assumptions that call into question the validity of its conclusion regarding the lack of interference to existing operations. For example, Higher Ground assumes unrealistically that mobile devices will average only five messages per month and are spread evenly over the country (rather than concentrated in particular areas, which is more likely) and that messages will occur evenly over time (rather than more realistically during certain parts of the day).⁸ In any event, to the extent that Higher Ground's proposed operations merit any consideration, discussion and analysis of those operations should be conducted pursuant to a rulemaking proceeding.⁹

Lazarus, Counsel for the Fixed Wireless Communications Coalition, to Marlene H. Dortch, Secretary, Federal Communications Commission, IB Docket No. 02-10, at 3 (filed Nov. 19, 2004).

⁵ Specifically, Higher Ground asserts it would establish protection zones, use frequency and spatial diversity techniques, and rely on the Commission's Universal Licensing System database, as the primary source for determining the parameters of fixed service operations. Higher Ground, LLC, Application for a Blanket License to Operate C-band Mobile Earth Terminals, Reed Declaration at 2.

⁶ Letter from Cheng-yi Liu, Counsel for the Fixed Wireless Communications Coalition, Inc., to Marlene H. Dortch, Secretary, Federal Communications Commission, Re: Higher Ground LLC, Blanket License Application for C-band Mobile Earth Terminals; IBFS File No. SES-LIC-20150616-00357, Attachment at 8 (July 15, 2016) ("FWCC July 15th Ex Parte"); FWCC Petition at 6.

⁷ FWCC Petition at 6-7.

⁸ See FWCC July 15th Ex Parte, Attachment at 11 (Higher Ground also unrealistically assumes that: 1) pointing of mobile devices is random over 360 degrees; 2) fixed receivers are spread evenly over the country; 3) pointing of fixed receivers at any location is random).

⁹ See, e.g., *Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates*, Memorandum Opinion and Order and Second Report and Order, 17 FCC Rcd 9614, ¶ 53 (2002) (denying application and associated waiver request of terrestrial applicant, Northpoint Technology, Ltd., which proposed to share the 12.2-

For the above reasons and those raised by FWCC in its Petition to Deny and other filings in this proceeding, AAR respectfully requests that the Bureau deny Higher Ground's Application.

Respectfully submitted,

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12.7 GHz band with satellite operators, and establishing via a rulemaking proceeding technical sharing criteria and service and licensing rules for a new terrestrial service); *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 3959 ¶ 320 (2015) (adopting via a rulemaking proceeding criteria for certifying 3.5 GHz database administrators to conduct frequency coordination).

CERTIFICATE OF SERVICE

I, Noah Cherry, hereby certify that on December 22, 2016, true and correct copies of the foregoing letter were sent by United States mail, first-class postage prepaid, to the following:

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